1: Oncogene. 2000 Apr 20;19(17):2098-109. Related Articles, Links

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Evi27 encodes a novel membrane protein with homology to the IL17 receptor.

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Evi27 is a common site of retroviral integration in BXH2 murine myeloid leukemias. Here we show that integration at Evi27 occurs in a CpG island approximately 6 kb upstream from a novel gene (designated Evii27) with homology to the IL17 receptor (Il17r) and that proviral integrations result in increased expression of the Evi27 protein on the cell surface. The human EVI27 homolog was also cloned and mapped to chromosome 3p21. Multiple Evi27 isoforms were detected at the RNA and protein level in both human and mouse, indicating that Evi27 expression is complex. Some of the isoforms are shown to likely represent secreted soluble forms of the protein produced by intron incorporation or by proteolytic cleavage. In the mouse, highest Evi27 expression occurs in liver and testes with lower expression in kidney and lung. In humans, EVI27 is expressed at high levels in the kidney, with moderate levels in the liver, brain, and testes. Within hematopoietic cells, Evi27 expression is restricted. Northern and Western analysis showed that Evi27 is expressed in selected T-cell, B-cell and myeloid cell lines. These results suggest that Evi27 expression is tightly regulated during hematopoietic differentiation. Collectively, these studies identify a new member of the cytokine receptor family whose increased and uncoordinated expression may lead to myeloid leukemia by altering Evi27's normal ability to control the growth and/or differentiation of hematopoietic cells.

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